

DEPARTMENT OF TRANSPORTATION**DIVISION OF ENGINEERING SERVICES**

Office of Structural Materials

Quality Assurance and Source Inspection



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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 1.28**WELDING INSPECTION REPORT****Resident Engineer:** Siegenthaler, Peter**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-018163**Date Inspected:** 15-Nov-2010**Project Name:** SAS Superstructure**OSM Arrival Time:** 1000**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1830**Contractor:** American Bridge/Fluor Enterprises, a JV**Location:** Jobsite**CWI Name:** See below**CWI Present:** Yes No**Inspected CWI report:** Yes No N/A**Rod Oven in Use:** Yes No N/A**Electrode to specification:** Yes No N/A**Weld Procedures Followed:** Yes No N/A**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:** Yes No N/A**Approved Drawings:** Yes No N/A**Approved WPS:** Yes No N/A**Delayed / Cancelled:** Yes No N/A**Bridge No:** 34-0006**Component:** SAS OBG**Summary of Items Observed:**

On this date CALTRANS OSM Quality Assurance Inspector (QAI) Bert Madison was present at Yerba Buena Island in California between the times noted above for observations relative to the work being performed by American Bridge/Fluor Enterprises (AB/F) personnel at the locations noted below.

- 1). OBG Field Welding of Lifting Rod Access Penetration Inserts (SMAW)
- 2). OBG East Line Lifting Rod Access Penetration Insert Welds (QC UT)
- 3). OBG East Line Access Penetration Insert Welds (QC UT)

- 1). OBG Field Welding of Lifting Rod Access Penetration Insert (SMAW R-1 Repairs)

Exterior: OBG 2E-PP15-E3 - welds 1 through 4

The QAI periodically observed AB/F approved welder Earl Espinoza (ID 5824) performing air carbon arc gouging, grinding and welding per the Shielded Metal Arc Welding (SMAW) process in the 1G (flat) position of E3-welds 1 through 4. The welding at this location was to repair QC Ultrasonic Testing (UT) rejected areas. The QAI noted that weld #1 contained 4 excavated areas, weld #2 had 4 excavations, weld #3 had 4 excavations and weld #4 had 1 excavated area. QC Inspector Patrick Swain was periodically present to monitor the progress and verify that the welding parameters were within the limits established by the approved welding Procedure Specification (WPS) identified as ABF-WPS-D1.5-1000 Repair. The QAI also periodically observed Mr. Swain and QC Salvador Merino performing Magnetic Particle Testing (MT) of the excavated areas prior to the repair welding. See photo below. The QAI observed that the performance and evaluation of the MT appeared to comply with the MT procedure identified as SE-MT-CT-D1.5-101 Rev. 4. Repair welding was completed on the exterior at E3-welds 1 through 4. The QAI observed that the work at this location appeared to be in general compliance with contract documents.

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Interior: OBG 2E-PP15-E3 - welds 2 & 4

The QAI periodically observed AB/F approved welder Eric Sparks (ID 3040) performing flush grinding of repair welds at E3 welds 2 & 4.

Interior: OBG 2E-PP15-E4 - welds 1 through 4

The QAI periodically observed AB/F approved welder Rick Clayborn (ID 2773) performing air carbon arc gouging and AB/F approved welder Eric Sparks (ID 3040), grinding and welding per the Shielded Metal Arc Welding (SMAW) process in the 4G (overhead) position of E4-welds 1 through 4. The welding at this location was to repair QC Ultrasonic Testing (UT) rejected R-1 areas. The QAI noted that weld #2 had 2 excavations and weld #4 had 1 excavated area.

Interior: OBG 2E-PP17-E3 - welds 1 and 3

The QAI periodically observed AB/F approved welder Rick Clayborn (ID 2773) performing air carbon arc gouging of QC Ultrasonic Testing (UT) rejected R-1 areas. The QAI noted that weld #1 contained 4 excavated areas, weld #2 had 1 excavation, weld #3 had 1 long horseshoe shaped excavation and weld #4 was UT-OK and not excavated.

Exterior: OBG 2E-PP17-E4 - welds 2 and 3

The QAI periodically observed AB/F approved welder Earl Espinoza (ID 5824) performing welding per the Shielded Metal Arc Welding (SMAW) process in the 1G (flat) position of E4-welds 2 and 3. See photo below. The welding at this location was to repair undercut based on QC VT. QC Inspector Patrick Swain was periodically present to monitor the progress and verify that the welding parameters were within the limits established by the approved welding Procedure Specification (WPS) identified as ABF-WPS-D1.5-1070. The QAI observed that the work was completed at this location and appeared to be in general compliance with contract documents.

Interior: OBG 3E-PP22-E3-weld 1 and weld 3

The QAI periodically observed AB/F approved welder Darcell Jackson (ID 9967) performing back welding per the Shielded Metal Arc Welding (SMAW) process in the 4G (overhead) position of E3-weld 1. QC Inspector John Pagliero was periodically present to monitor the progress and verify that the welding parameters were within the limits established by the approved welding Procedure Specification (WPS) identified as ABF-WPS-D1.5-1110B rev. 1. Welding was completed from the interior at E3-weld 1 and the QAI observed Mr. Jackson back welding per the Shielded Metal Arc Welding (SMAW) process in the 4G (overhead) position of E3-weld 3. The QAI observed that the work was completed at this location and appeared to be in general compliance with contract documents.

2). OBG East Line Lifting Rod Access Penetration Insert Welds (QC UT)

The QAI periodically observed QC Inspector Patrick Swain performing Ultrasonic Testing (UT) from Face A of OBG East Line Lifting Rod Access Penetration Insert Welds.

The QAI periodically observed Mr. Swain performing QC UT at the following locations with the following results:

Location:	QC UT Results:
2E-PP17-E3 weld 1	6 Rejectable Indications
2E-PP17-E3 weld 2	1 Rejectable Indication
1E-PP11-E4 weld 4	1 Rejectable (R-3) Indication

The QAI observed that Mr. Swain utilized the UT Procedure identified as SE-UT-D1.5-CT-100 Rev.4 during the

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examination of the repair welds. The QAI observed as the QC technician performed the required shear wave testing during the testing for weld soundness utilizing a .63 x .75 rectangular transducer. The UT examination appeared to be in general compliance with contract documents.

3). OBG East Line Access Penetration Insert Weld (QC UT)

The QAI periodically observed QC Inspector Steve McConnell performing UT of OBG East Line Access Penetration Insert Weld at 3E PP23.5 E5 NE from the exterior. Mr. McConnell utilized the UT Procedure identified as SE-UT-D1.5-CT-100 Rev.4 during the examination of the insert weld. The QAI periodically observed the QC technician performed the required shear wave testing during the testing for weld soundness utilizing a .63 x .75 rectangular transducer. The UT examination was completed from face A during this shift. After the conclusion of the QC UT at this location the QAI observed that Mr. McConnell had identified (3) three rejectable areas.

4). OBG Field Splice 7W/8W Weld ID: A1-A5, Face A – (QA verification)

The QAI performed verification Visual Testing (VT) of 10% of the lengths of OBG Field Splice 7W/8W Weld ID: A3-A5 and Ultrasonic Testing (UT) of 10% of the lengths of OBG Field Splice 7W/8W Weld ID: A1-A5. The OBG Field Splice 7W/8W Weld ID: A2, A3 & A5 verified by the QAI appeared to be in general compliance with contract documents. The OBG Field Splice 7W/8W Weld ID: A1 & A4 verified by the QAI did not appear to be in general compliance with contract documents. On weld A4 at Y = 5465mm the QAI observed an Arc Strike and on weld A1 at Y = 2835mm the QAI observed a base metal gouge and a temporary attachment remnant (scab) at approximately Y = 2350mm. The QAI also observed (1) UT rejectable indication (Class A Reject) at Y = 2480mm. See Ultrasonic Testing Report Form TL-6027 generated by the QAI on this date. The QAI informed QC Lead Inspector Bonafacio Daquinag of the results of the QAI verification testing at this location. See Summary of Conversations Below.



Summary of Conversations:

The QAI approached Mr. Daquinag and informed him of the visual and ultrasonic indications observed by the QAI. Mr. Daquinag stated that he would see to it that the UT indication was verified / confirmed and that the visually observed indications would be rectified

Other conversations on this date with Quality Control Inspectors were general in nature and pertained to locations of welding and QC activities.

Comments

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This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Mohammed Fatemi (916) 813 3677, who represents the Office of Structural Materials for your project.

Inspected By:	Madison,Bert	Quality Assurance Inspector
Reviewed By:	Levell,Bill	QA Reviewer
